Biogeographical synthesis of *Schistocerca gregaria* (Forsk., 1775) in Mauritania: 7 Locust mapping regions

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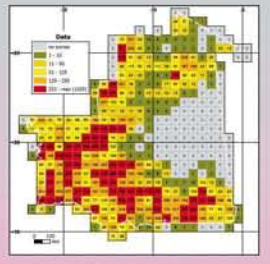


Fig.1.- Spatial distribution of the survey data

The National Desert Locust Control Centre of Mauritania has started the storage of the Desert Locust data available since the 1960s.

More than 55,000 records, each corresponding to one surveyed site, are gathered into a chrono- and geo-referenced database, whose structure copies RAMSES/FAO database.

The most important part of the database consists of the records form the last 20 years.

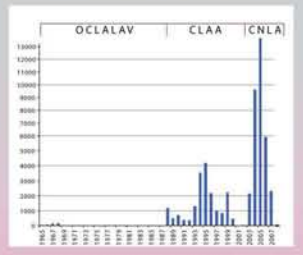


Fig.2.- Annual distribution of the survey data and administrative structure

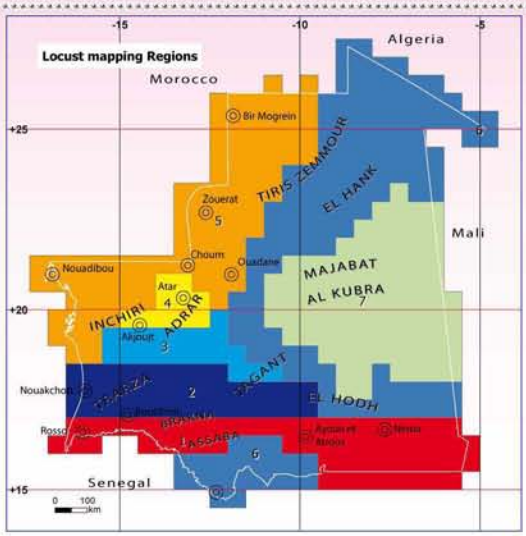
The spatial analysis of locust occurrences in relation with phase (solitarious, transiens, gregarious), phenological stage (hopper, imago), season and global locust situation (recession, outbreak, upsurge and plague) resulted in the definition of consistent locust areas for the annual achievement of the locust biological cycle: they are called "Locust ecoregions". These Locust ecoregions reflect the Desert Locust biogeography on the Mauritanian territory.

Fig.3.- Spatial distribution of the locust gregarisation sites (simultaneous presence of solitarious and transiens hoppers)

Fig.4.- First appearance of transiens, mixed with solitarious populations

7 Locust mapping regions:

Fig.5.- The 7 Locust mapping regions of Mauritania



1. A summer breeding area for solitary (July - September)
2. An intermediate summer-autumn breeding area for solitary (July-September and/or October-December).
3. An autumnal breeding area for solitary (October-December).
4. An autumnal and winter intermediate breeding area for solitary (October-December / January-March).
5. A winter breeding area for solitary (January-March / April-June).
6. A breeding and\or dispersal area for gregarious (all the year).
7. Majabât El-Koubra (a hostile area only suitable for migrations).

Fig.6.- Winter breeding area (North Sahara with Mediterranean climate influence)

Fig.7.- Autumnal breeding area (Central Sahara area)

Fig.7.- Spring breeding area (North Sahelian area)

It was demonstrated that locust gregarisation can only occur within restricted hot spots and during some specific periods; the Locust eco-regions 3, 4 and 5 appear as essential for the understanding of the initial stages of the gregarisation process. Our spatial results can now direct field surveys operations, improve their performance and reduce their cost.

Key-words : Mauritania ; preventive control ; Schistocerca gregaria ; Ecoregion

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